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## THE REDISCOVERY OF A LOST RACE (LEPID., RHOPALOCERA)

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Just prior to 1863 Dr. Herman Behr of the Academy of Sciences at San Francisco received from Dr. Cooper several atypical looking *Euphydryas chalcedona* (Dblly. & Hew.) which the latter had collected *near* San Diego, presumably in the back country to the east and south. Dr. Behr recognized these specimens as new and described them under the name of *quino* in the Proc. Calif. Acad. Sci., 3,90,1863\*. Unfortunately the original types were never illustrated and in 1906 all evidence of what the name stood for, aside from the original description, was lost in the great San Francisco fire.

One of the principal reasons why Dr. Behr's *quino* has remained a puzzle for so many long years is that no one has collected on the desert's edge back of San Diego early in March especially looking for *Euphydryas*. Until the last ten years there has been practically no roads into that region and during the '70s, '80s and '90s everybody who went in usually packed-in. Even to reach San Diego, until a comparative recent date, people came down the coast via Los Angeles. Another point is that semi-desert *Euphydryas* rarely fly in quantity in a single location; only a few can be picked up here and there at a time. Still another point is the misidentifications by contemporary collectors.

During March, in 1924, my wife and I camped near Jacumba, back of San Diego, and one of these specimens was taken, but I thought nothing of it at the time. Later, while examining *chalcedona* in the collection of George Field at San Diego, I found another similar specimen labeled "La Puerta Valley, Calif., Mar., 1914." This place is on the desert's edge east of

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\* As the early issues of this publication are scarce and not easily available, I am copying Dr. Behr's original description at the end of this article.

San Diego near the Mexican border. In April, 1925, when passing through Campo, San Diego County (about 40 miles east of San Diego), I picked up two other ragged specimens. In the meantime, I had made several trips to Palm Springs and up Chino Canyon off the desert and each year, if the rains had been good to vegetation, I had noted a smaller, redder and distinct looking *chalcedona*. Palm Springs lies on the desert's edge in the county north of San Diego County off the same chain of mountains, with the same kind of vegetation. This year I made a determined effort to solve the question of this different looking *chalcedona* and though I could not go myself, I sent Mr. Frank Morand to Palm Springs and he, after a week's camping, managed to gather a small series in both sexes. Also Mr. John Garth of Long Beach, Calif., has collected this year several specimens up Chino Canyon under date of March 18. Typical *chalcedona*, as found along the coast regions, do not fly in this desert territory. I believe these semi-desert *Euphydryas* to be Dr. Behr's original *quino* and I illustrate two pairs on the accompanying plate. Figs. A and B (drawings) show position of red maculation which agrees with the original description. The wing shapes are those of the *chalcedona* group. The under sides are paler and have a grayish aspect and last, but not least, the much disputed clubs of the antennæ are actually different in color from typical *chalcedona*, being a shading of black and chrome yellow. The drawing of the male genitalia (illustrated) shows *quino* to be a race of *chalcedona*. The shape of the harpe is similar. The projections of the uncus are not dissimilar.

As a matter of record on this plate, I illustrate the original type (a female, in fair condition) of *chalcedona* (Dblly. & Hew.). This specimen is in the British Museum and this photograph was made for me through the courtesy of N. D. Riley of that Institution. Mr. Riley also had made for me an accurate colored drawing. Incidentally, I illustrate all the labels found with the type. This specimen has red spots *only* at margin on upper side primaries near apex; also it is rather large and heavily marked, which places it as a pure San Francisco example. It is similar to those taken in Visitacion Valley, which is an old section within that city. Also the black macula-

tion is rather heavy. The genitalia of San Francisco examples are of the purer *chalcedona* groups with hardly any points to the wide-spread uncus. There are hardly any to the dorsal (or upper) hook at least. The genitalia of *chalcedona* as taken at San Jose and south to Los Angeles, and even further south in San Diego, vary in this regard, however regardless of seeming difference, I do not believe a racial name can ever be applied as there is too much intergradation.

Returning again to the subject of race *quino* (Behr), I might review a little of its past history to show how a name can be bounced from pillar to post until some of the specimens are actually rediscovered.

1881; Papilio, 1,52, (Hy. Edw.) Likens *quino* to *baroni*. I believe Dr. Behr never received any more specimens other than the original type lot which Dr. Cooper collected. For want of specimens to supply others who made demands, or for want of confidence in his name *quino*, he himself may have selected other specimens which he thought could pass for his *quino*. The words "type locality" did not mean much in those days even with a variable species.

1897; Butterflies of N. A., 3, see *rubicunda* text, (W. H. Edwards). Doubts that *baroni* or *rubicunda* approaches *quino*.

1898; Butterfly Book, (Holland). Ignores *quino* and luckily with good grace.

1905; Butterflies of the West Coast, p. 147, (W. G. Wright). Illustrates a typical looking *chalcedona* as *quino*. Dr. Behr probably could never get any information out of Wright, but Wright "hollars" when he was denied!

1907; Can. Ent., 39,380, (Grinnell). Guesses that *quino* is the same as *augusta*. Incorrect, but getting nearer the type locality at any rate!

1916; Contributions, Vol. 3, No. 2, p. 88, (Barnes & McDunnough). Says "We imagine the last word in connection with *quino* has yet to be spoken." First to recognize "type locality" and give credence to "wing shape," etc.

1917; Check List of Lepidoptera, p. 9, (Barnes & McDunnough). Follows Grinnell's lead of 1907 for lack of more evidence.

- 1924; The American Rhopalocera, pp. 95 & 297, (Sietz). Illustrates a ♀ *chalcedona* as *quino* and a ♂ specimen of some kind supposed to have come from Dr. Dyar.
- 1926; List of Diurnal Lepidoptera, Bull. So. Calif. Acad. Sci., 1,12, (Barnes & Benjamin). Follows the 1917 list.
- 1926; Pan-Pac. Entomologist, Oct. p. 75, (Cottle). Nothing in the original description indicates that *quino* was "big" or "dark" or from "Contra Costa County."
- 1927; Butterflies of California, p. 102, (J. A. Comstock). *Baroni* (Edw.) occurs along the Coast Ranges in northern California, while *editha* (Bdv.) which is similar, only smaller and having a genitalic similarity, is found also along the Coast Ranges only in southern California. Comstock, therefore, follows Hy. Edwards in assuming that *quino* belonged to this group and shows specimens of *editha* as *quino* on his pl. 34, figs. 1 to 6. I have made genitalic slides of *editha* from Kern County, Orange County and San Diego County and they are all very similar and the same thing. Also I have photographs of *editha* types taken at the Barnes collection in Decatur, Illinois.

*Euphy. chalcedona quino* (Behr) is bound to remain always a rather rare butterfly in most collections because of its desert habitats and early season flight; however anyone who wishes to procure examples may collect up Chino Canyon near Palm Springs in early March and secure a few specimens. Collecting will be found better above the native palms in that canyon. *Quino* need not be confused with *perdiccas* or other northern *Euphydryas* as it has an entirely different aspect.

Here follows Dr. Behr's original description with a free translation:

3. *M. Quino*, Behr, n. sp.

*M. Chalcedonti* similis sed antennæ clava discolor, fusca nec concolor antennæ reliquæ aurantiacæ. (Similar to *chalcedona*, but the club different in color to the antenna, fused dark or swarthy and not the same color as the rest of the antenna.)

Alæ supra ut in *M. Chalcedonte* sed series macularum submarginalium in anticis rubra et marginalium in posticis flava rubro tincta. Series quarta in anticis bifida, fere tota rubra, tertia in posticis omnino rubra. (Wings above as in *chalcedona*, but a row of red sub-

marginal spots on the anterior wings and a series of marginal spots on the posterior, tinged with reddish yellow. The fourth series cleft in anterior, almost entirely red, the third altogether red in posterior.)

Alæ inferiores subtus ut in *M. Chalcedonte* sed fascia flava prope radicem in maculas sex dissecta maculaque flava discalis puncto ejusdem coloris extus aucta. (The lower wings beneath as in *chalcedona* but yellow bands near the base cut into six spots and the discal yellow spot increased outside by a spot of the same color.)

*Melitea Quino* may be distinguished at once by the entirely different and much gayer coloration of the upper side, which much more resembles that of *M. Anicia* than *M. Chalcedon*. To the latter species it comes nearest in the peculiar shape of the wings, so characteristically different in the two sexes. In *M. Anicia* this difference exists not to the same degree. The yellow part of the underside of the hind wings is much paler than in *M. Chalcedon* and *M. Anicia*. The yellow radical band is dissolved into six distinct but nearly connected maculæ. In *M. Chalcedon* this band is not interrupted and only the sixth macula is separated, making part of the yellow coloration of the anal side of the wing. From *M. Anicia* it differs besides, in the underside of the fore wings being nearly all of a reddish-brown color with scarcely any indication of the marking of the upper side, closely resembling *M. Chalcedon*. From both species *M. Quino* differs in the coloration of the club of the antenna.

This species I received from Dr. Cooper, formerly of the State Geological Survey, who collected several specimens near San Diego. I have called it *Quino* in remembrance of the California Pioneer, Padre Quino, the first European that ever succeeded in erecting a permanent settlement in California, and at the same time contributed very considerably by his learned writings to a more exact knowledge of these then scarcely discovered regions.

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## SOME NEW SPECIES AND VARIETIES OF NORTH AMERICAN LEPIDOPTERA

BY WM. BARNES, B. S., M. D.

*Decatur, Illinois*

### *Papilio daunus ragani*, Barnes, ab. nov.

The broad black outer margin to the fore wings within the included row of yellow intravenular bars is not solid even black as in the typical form, but shows the yellow ground color sprinkled unevenly with black scales, giving a peculiar moth-eaten appearance.

**Baboquivari Mountains, Arizona.** Holotype in Barnes collection.